## Chassis Assembly (DWG 86801)

**Table 7 (Reference Figure 7)**

| ITEM | PART NO. | DESCRIPTION | QUANTITY REQ. RH A/T | RH M | LH A/T | LH M |
|---|---|---|---|---|---|---|
| 38 | 87401 | Bracket | - | - | 1 | 1 |
| 39 | 85217 | Air Deflector | - | - | 1 | 1 |
| 40 | 87404 | Label – Caution Fan | - | - | 1 | 1 |
| 41 | 87407 | Molex 2 Pin Connector (Receptacle) | - | - | 1 | 1 |
| 42 | 87083 | Molex Male Pin | - | - | 2 | 2 |
| | | | | | | |
| 43 | 87406 | Molex 2 Pin Connector (Plug) | - | - | 1 | 1 |
| 44 | 87082 | Molex Female Pin | - | - | 2 | 2 |
| 45 | 87405 | Thermal Reed Switch | - | - | 1 | 1 |
| 46 | 70161 | Diode IN4002 | - | - | 1 | 1 |
| 47 | 86484 | Wire Hold Down | - | - | 1 | 1 |
| | | | | | | |
| 48 | 85061 | Wire Red 5" (to Thermal Switch) | - | - | 1 | 1 |
| 49 | 85058 | Wire Black 7" (to GND) | - | - | 1 | 1 |
| 50 | 85061 | Wire Red 5" (to AC Connect) | - | - | 1 | 1 |
| 51 | 85048 | Heat Shrink $^{3}/_{16}$ x 1 ½ lg. | - | - | 1 | 1 |
| 52 | 85067 | #4 Flat Washer | - | - | 2 | 2 |
| 53 | 85139 | 4-40 x 5/16 F.H.M.S. (Rhinestone) | 4 | 4 | 4 | 4 |

## Back Panel Assembly, DWG 86604-2

**Table 8 (Reference Figure 8)**

| ITEM | PART NO. | QTY | DESCRIPTION |
|---|---|---|---|
| 1 | 81517 | 1 | Panel, Back |
| 2 | 81514 | 1 | Assembly, Power Supply |
| 3 | 70442 | 1 | Silicone Insulated Pad |
| 4 | 86751 | 1 | Label, Back Panel |
| 5 | 7447 | 2 | Rubber Feet |
| | | | |
| 7 | 85058 | 1 | 22 AWG x 4" (Black Ground Wire) |
| 8 | 86060G | 1 | Assembly, Strap (Power Cord) |
| 9 | 86888 | 1 | Strain Relief |
| 10 | 86057P | 1 | Power Cord (Grey) |
| 11 | 81518 | 1 | Fuse Holder |
| 12 | 81519 | 1 | Fuse, 1 Amp 250V |
| | | | |
| 13 | 70156 | 1 | Potentiometer, 250 ohm (Audio Adjust) |
| 14 | 87058 | 2 | Spacer |
| 15 | 85164 | 2 | Internal Tooth Star Washer |
| 16 | 85074 | 2 | Washer, .380 ID x .500 OD x .028 Thk. SS |
| 17 | 85042 | 3 | 8-32 Hex Nut SS |
| | | | |
| 18 | 85071 | 6 | #8 External Tooth Star Washer SS |
| 19 | 85019 | 1 | Terminal, Lug Ring |
| 20 | 85068 | 2 | #4 Internal Tooth Star Washer SS |
| 21 | 85028 | 1 | 4-40 x $^{3}/_{16}$ lg. B.H.M.S. SS |
| 22 | 85076 | 1 | Shoulder Washer |
| | | | |
| 23 | 85048 | 2 | Shrink, Black $^{3}/_{16}$ ID x ¾ OD x ± $^{1}/_{8}$ lg. |
| 24 | 85110 | 1 | Shrink, Black ½ ID x ¾ lg. |
| 25 | 85108 | 1 | Wire, Brown UL1015 5" lg. 18ga. |
| 26 | 85702 | 1 | #8 Splitlock Washer |
| 28 | 85108 | 1 | Terminal Fork Flanged |

## Back Panel Assembly, DWG 86613 LH, RH

**Table 8 (Reference Figure 8)**

| ITEM | PART NO. | QTY RH | QTY LH | DESCRIPTION |
|---|---|---|---|---|
| 1 | 85157 | - | 1 | Panel, Back |
| 2 | 81514 | 1 | 1 | Assembly, Power Supply |
| 3 | 70442 | 1 | 1 | Silicone Insulated Pad |
| 4 | 86808 | - | 1 | Label, Back Panel |
| 5 | 744 | 2 | - | Rubber Feet |
| | | | | |
| 6 | 85056 | 1 | - | |
| 7 | 85058 | 1 | 1 | 22 AWG x 6" (Black Ground Wire) |
| 8 | 86060G | - | 1 | Assembly, Strap (Power Cord) |
| 9 | 86888 | - | 1 | Strain Relief |
| 10 | 86057P | - | 1 | Power Cord (Grey) |
| 11 | 81518 | 1 | 1 | Fuse Holder |
| 12 | 81519 | 1 | 1 | Fuse, 1 Amp 250V |
| | | | | |
| 13 | 70156 | 1 | 1 | Potentiometer, 250 ohm (Audio Adjust) |
| 14 | 87058 | 1 | 1 | Spacer |
| 15 | 85164 | 2 | 2 | Internal Tooth Star Washer |
| 16 | 85074 | 2 | 2 | Washer, .380 ID x .500 OD x .028 THK. SS |
| 17 | 85042 | 3 | 3 | 8-32 Hex Nut SS |
| | | | | |
| 18 | 85071 | 5 | 5 | #8 External Tooth Star Washer SS |
| 19 | 85019 | - | 1 | Terminal, Lug Ring |
| 20 | 85068 | 2 | 2 | #4 Internal Tooth Star Washer SS |
| 21 | 85028 | 1 | 1 | 4-40 x 3/16 lg. B.H.M.S. SS |
| 22 | 85076 | 1 | 1 | Shoulder Washer |
| | | | | |
| 23 | 85048 | 2 | 2 | Shrink, Black $^{3}/_{16}$ ID x ¾ OD ± $^{1}/_{8}$ lg. |
| 24 | 85110 | 1 | 1 | Shrink, Black ½ ID x ¾ lg. |
| 25 | 85108 | 1 | 1 | Wire, Brown UL1015 5" lg. 18 ga. |
| 26 | 86738 | 1 | - | Back Panel |
| 27 | 86484 | - | 1 | Wire Hold Down |
| 28 | 85018 | - | 1 | Terminal Fork Flanged |
| | | | | |
| 29 | 86803 | 1 | - | Label Back Panel |
| 30 | 87199 | - | 1 | Terminal Block |
| 31 | 86381 | - | 1 | Terminal Block Insulator |
| 32 | 85106 | - | 1 | #4 Split Lock Washer |
| 33 | 85128 | - | 1 | 4-40 x $^{13}/_{16}$" lg. B.H.M.S |
| | | | | |
| 36 | 85072 | 1 | 1 | #8 Split Lock Washer |
| 37 | 86484 | - | 1 | Wire Hold Down |
| 38 | 85207 | - | 1 | Strain Relief Kit |

Back Panel Assembly DWG 86604-2

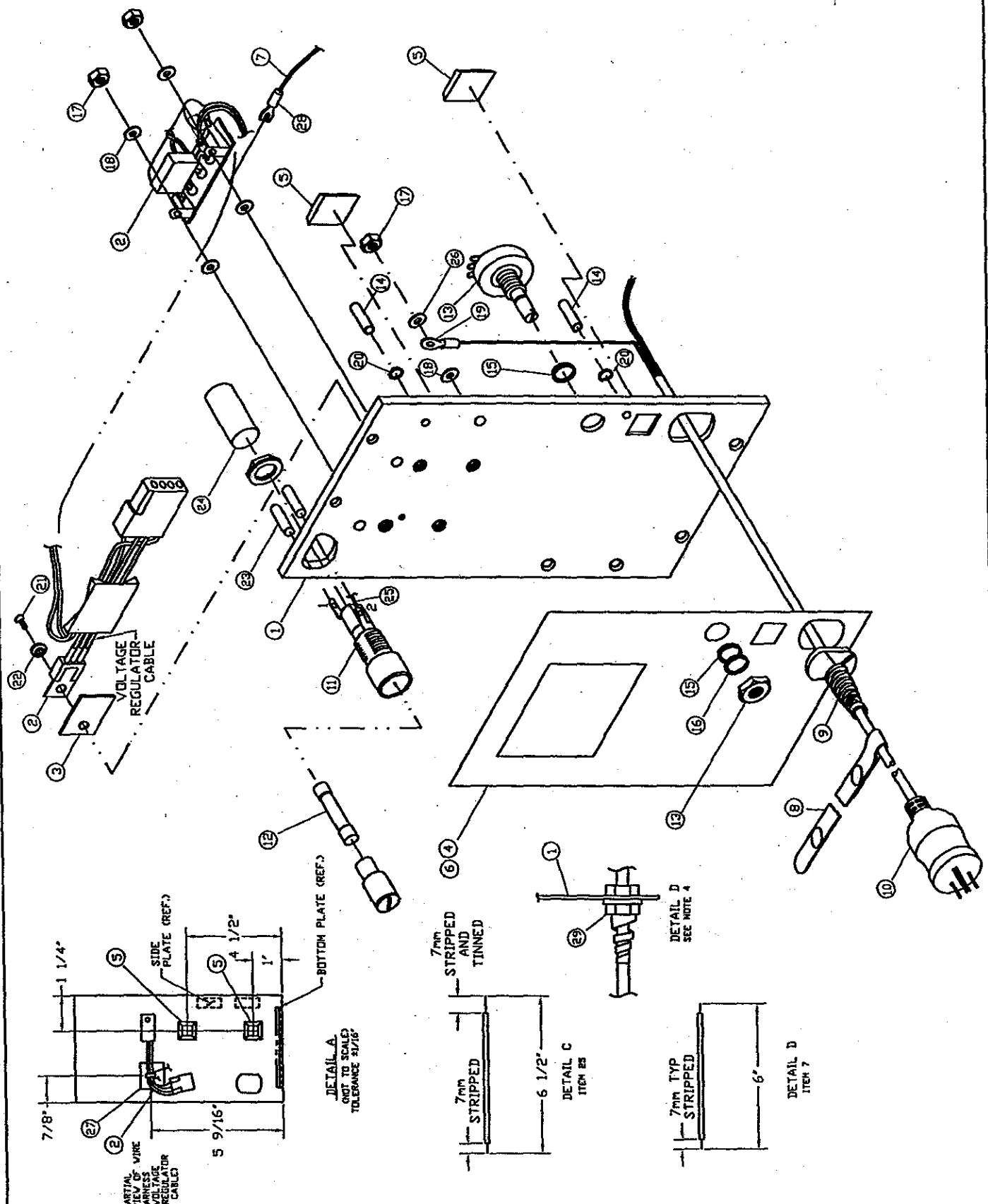
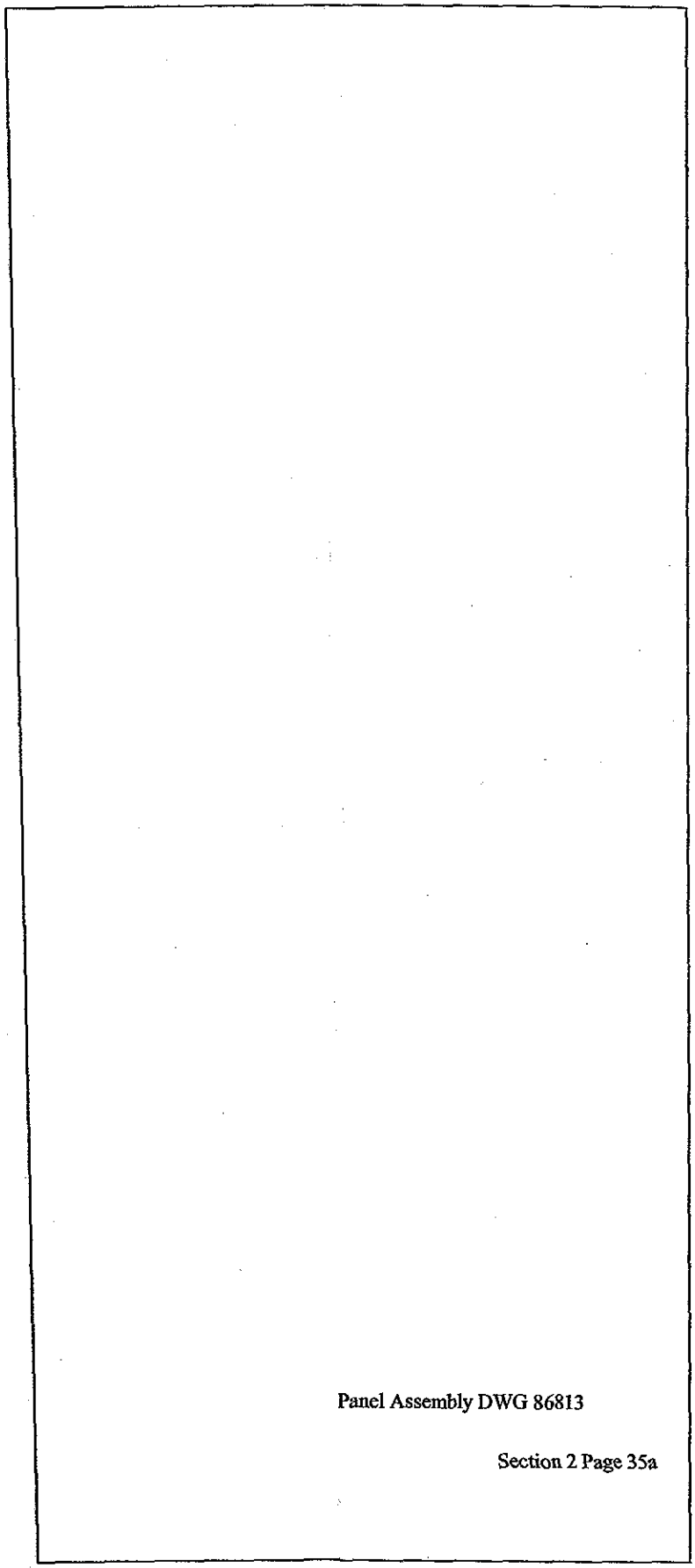



Figure 8



Panel Assembly DWG 86813

## Bottom Support Plate Assembly, DWG 86909

**Table 9 (Reference Figure 9)**

| ITEM | PART NO. | QTY | DESCRIPTION |
|---|---|---|---|
| 1 | 87024 | 1 | Plate, Bottom – Panel Support |
| 2 | 87027 | 1 | Plate, Speaker Mounting |
| 3 | 87146 | 1 | Speaker |
| 4 | 86776 | 1 opt | Plate, Bottom – Anti-Free Flow Clip |
| 5 | 85021 | 2 | Rubber Grommet |
| | | | |
| 6 | 85032 | 2 | 6-32 x ½ lg. T.H.M.S SS |
| 7 | 85070 | 2 | #6 Flat Washer SS |
| 8 | 86776-1 | 1 opt | Plate, Bottom – LH Anti-Free Flow Clip |

## Bottom Support Plate Assembly DWG 86909

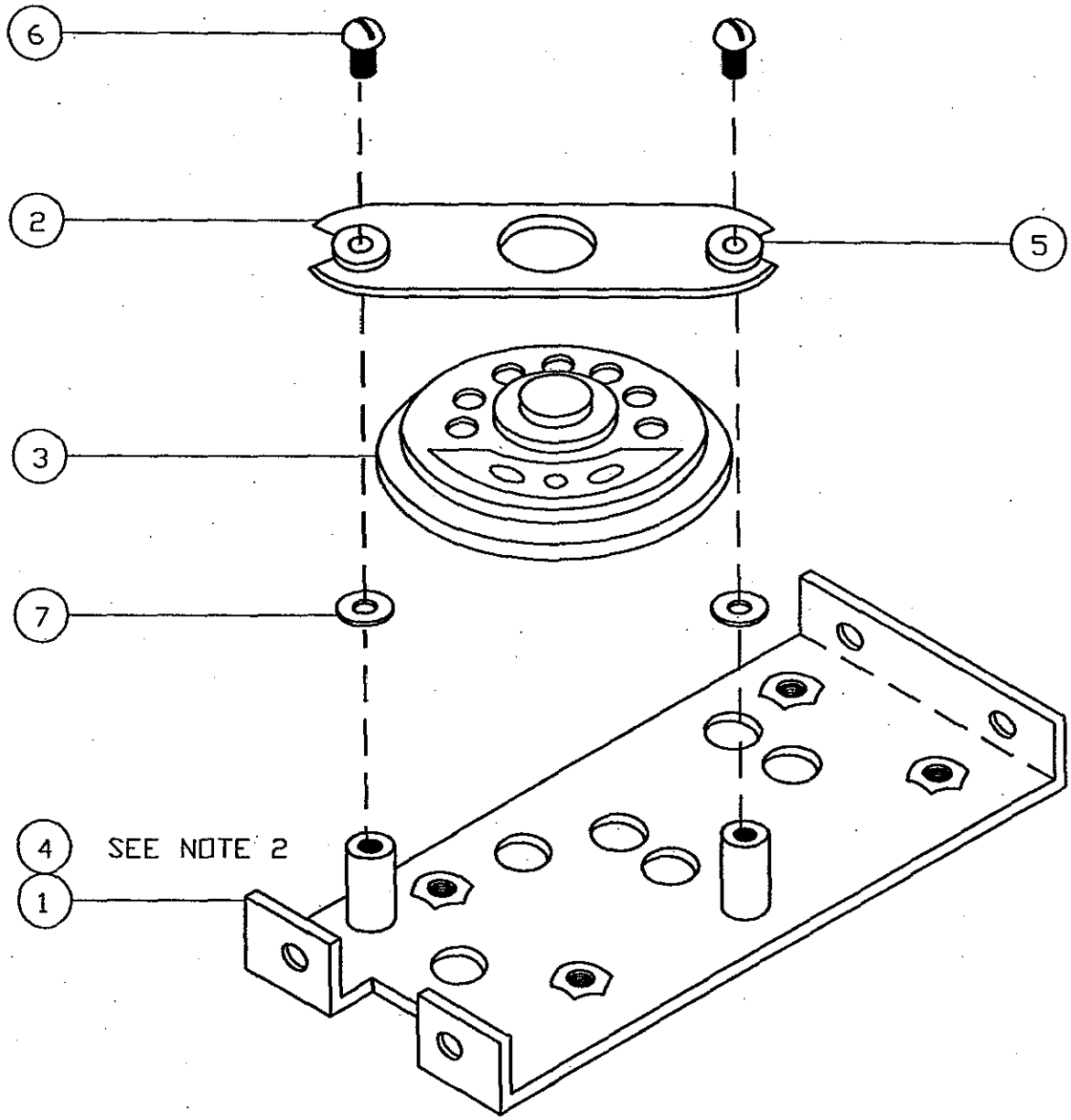



Figure 9
Section 2 Page 37

## Top Support Plate Assembly, DWG 81506

**Table 10 (Reference Figure 10)**

| ITEM | PART NO. | QTY | DESCRIPTION |
|---|---|---|---|
| 1 | 86353 | 1 | Plate, Top – Panel Support |
| 3 | 87147 | 1 | Transformer Assembly |
| 4 | 85071 | 4 | #8 External Tooth Star Washer SS |
| 5 | 85042 | 2 | 8-32 NC Nut Hex SS |
| 6 | 70424 | 2 | Wire Hold Down |

Top Support Plate Assembly
DWG 81506

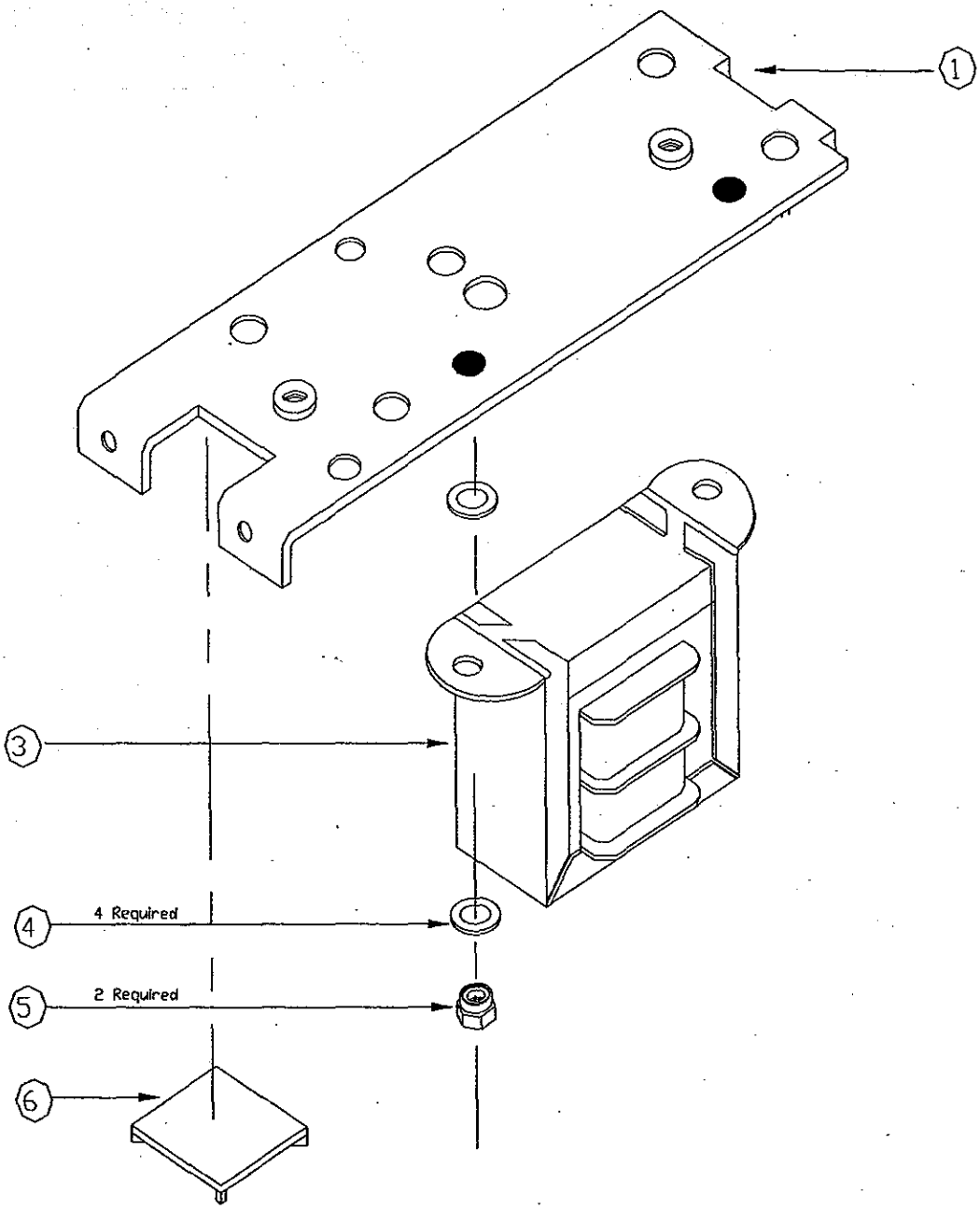



Figure 10

## Front Panel Assembly (DWG 86605G – See Note 1)

**Table 11 (Reference Figure 11)**

| | | | QTY REQ. | |
|---|---|---|---|---|
| **ITEM** | **PART NO.** | **DESCRIPTION** | **-** | **-1** |
| 1 | 86080G | Front Panel – Rhinestone (Abb/Bax) | 1 | - |
| 2 | 86918P | Latch, Flow Stop (Rhinestone_ | 1 | 1 |
| 3 | 86699-1 | Lever, Flow Stop Hooked (Yellow0 | 1 | 1 |
| 5 | 70085 | Spring, Flow Stop Latch | 1 | 1 |
| | | | | |
| 6 | 85007 | 4-40 x $^{3}/_{8}$ lg. S.H.C.S. SS | 2 | 2 |
| 7 | 85067 | #4 Flat Washer .125/.130ID x .312OD x .022thk | 1 | 1 |
| 8 | 85050 | Shoulder Screw, Short, DAS-A1-1 SS | 1 | 1 |
| 9 | 85049 | Shoulder Screw, Long, DAS-A1-2 SS | 1 | 1 |
| 10 | 70424 | Wire Hold Down | 1 | 1 |
| | | | | |
| 11 | 87056 | Hinge, PC Board | 1 | 1 |
| 12 | 85139 | 4-40 x $^{3}/_{8}$ lg. F.H.M.S. SS (Rhinestone) | 3 | 3 |
| 13 | 85068 | #4 Internal Tooth Star Washer SS | 3 | 3 |
| 14 | 85040 | 4-40 Hex Nut SS | 3 | 3 |
| 15 | 86685 | Hinge Bracket, Top (Rhinestone) | 1 | 1 |
| | | | | |
| 16 | 86686 | Hinge Bracket, Bottom (Rhinestone) | 1 | 1 |
| 17 | 87074 | Bearing, Flanged, Bronze | 2 | 2 |
| 18 | 86080G-1 | Front Panel – Rhinestone (McGaw) | - | 1 |
| 19 | 85071 | 6-32 Hex Nut SS | 2 | 2 |
| 20 | 85069 | #6 External Tooth Star Washer SS | 2 | 2 |
| | | | | |
| 21 | 85016 | Retaining Ring 1465-18 (SF) | 1 | 1 |
| 22 | 86682 | Pin, Door Latch | 1 | 1 |
| 25 | 86732 | Label, Flow Stop | 1 | 1 |
| 26 | 85052 | .005 thk x .250 x .625 Mylar | REF | REF |
| | | | | |
| 27 | 86247-1 | Flow Stop Lever Spring (McGaw) | - | 1 |
| 28 | 80632 | Flow Stop Lever Spring (Abb/Bax) | 1 | - |
| 29 | 85007 | 4-40 x $^{3}/_{8}$ S.H.C.S. SS | 2 | 2 |
| 30 | 85251 | Washer (.250 x .132 x .011) | 1 opt | 1 opt |

NOTE:

1. Assembly 86605G is for units using Abbott, Travenol or McGaw tubing.
2. Item 26 is referenced from drawing 86146.

Front Panel Assembly DWG 86605G

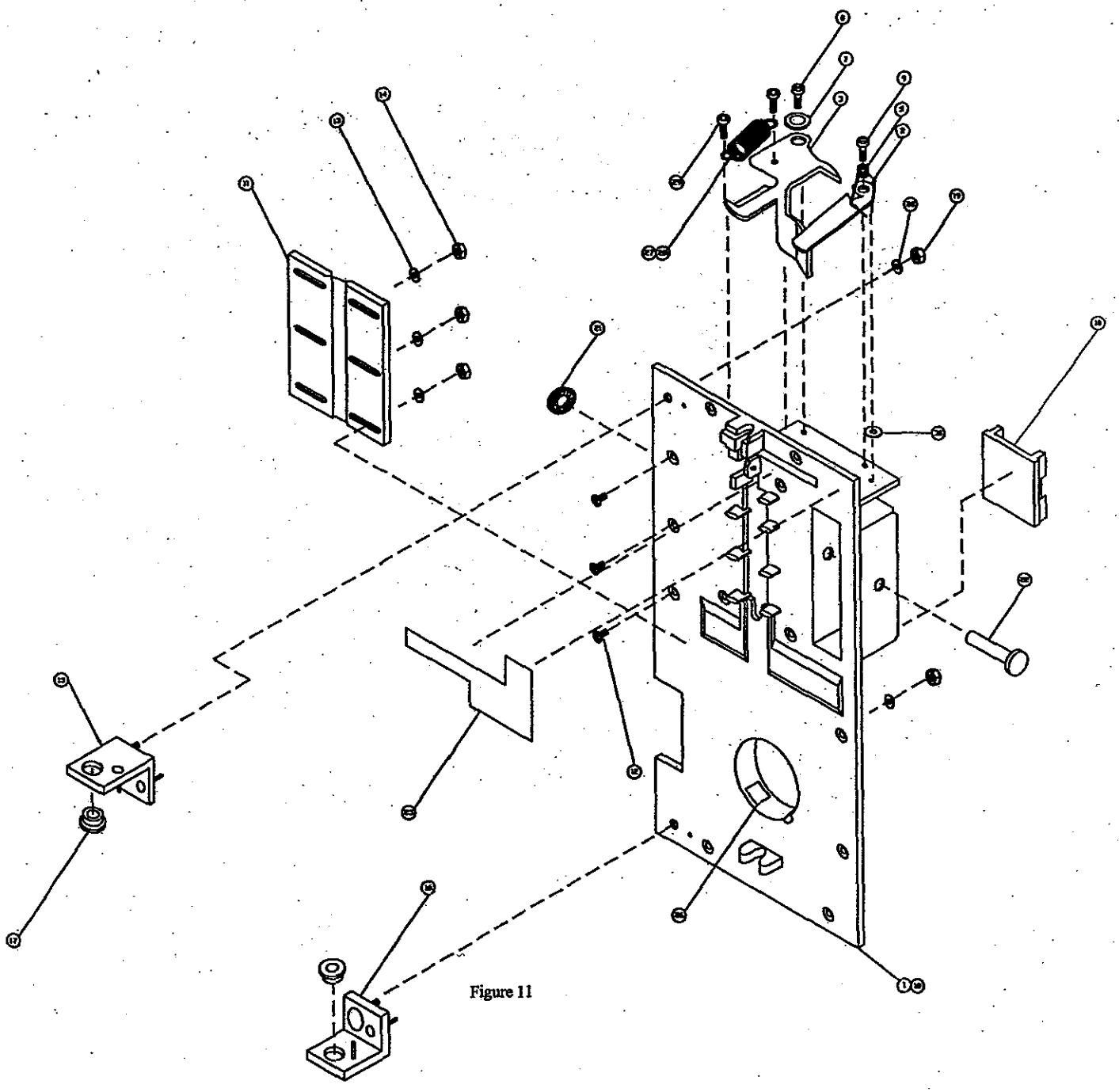


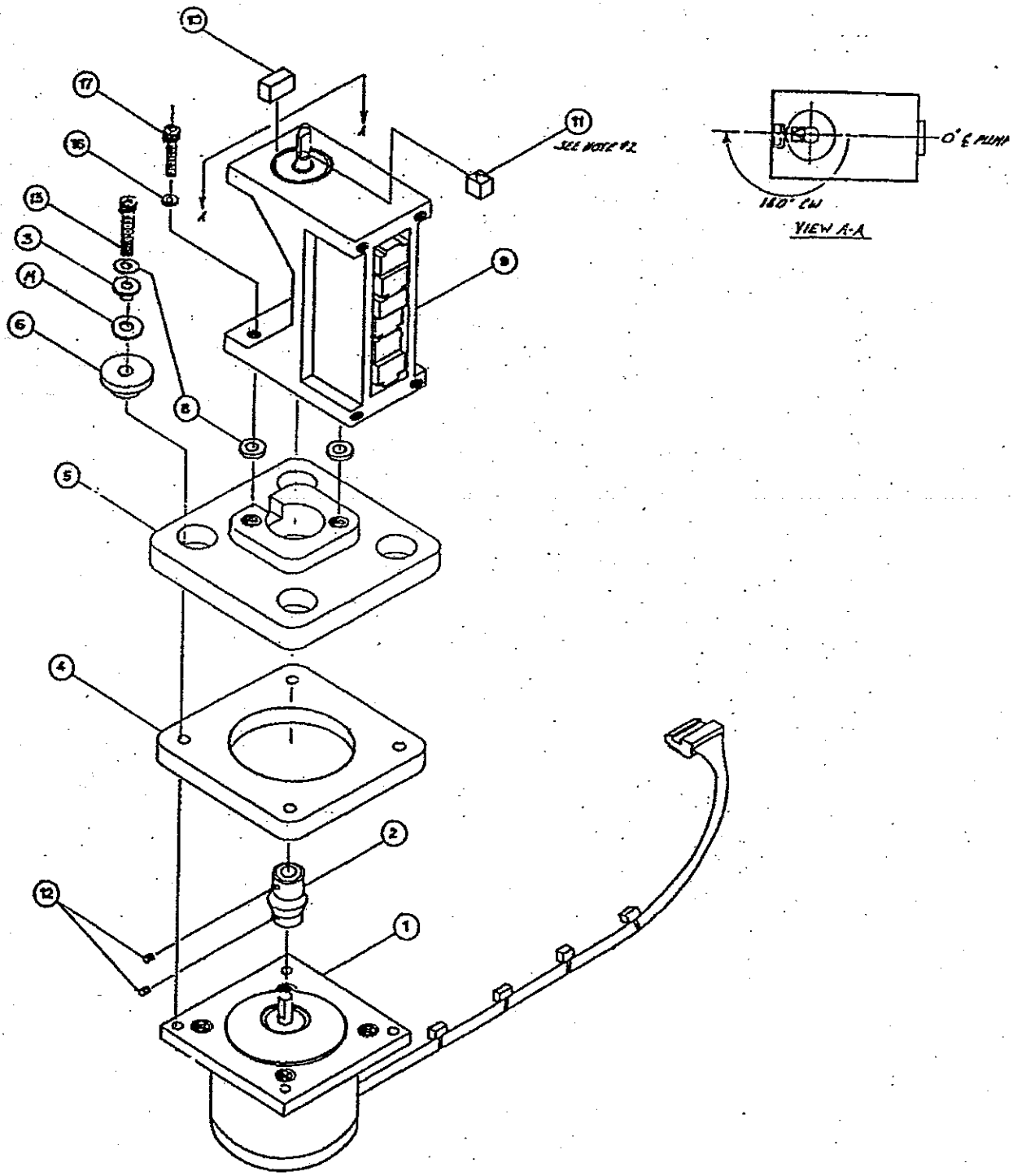
Figure 11

## Pump/Motor Assembly, DWG 86301

**Table 12 (Reference Figure 12)**

| ITEM | PART NO. | QTY | DESCRIPTION |
|---|---|---|---|
| 1 | 86310 | 1 | Assembly, Motor & Connector |
| 2 | 70155 | 1 | Coupling, Flexible |
| 3 | 70075 | 4 | Bushing, Step |
| 4 | 70115 | 1 | Pad, Motor Mount |
| 5 | 70101 | 1 | Motor Mount, Raw |
| | | | |
| 6 | 70092 | 4 | Bushing, Step, Motor Mount |
| 8 | 70114 | 6 | Washer, Fiber, Black |
| 9 | 86309 | 1 | Assembly, Pump – No Guides |
| 10 | 70206 | 1 | Button, Rectangular |
| 11 | 70076 | 1 | Magnet |
| | | | |
| 12 | 85044 | 2 | 5-40 x $^{1}/_{8}$ lg. S.H.M.S. SS |
| 13 | 85142 | 4 | 8-32 x 1 $^{1}/_{8}$ lg. S.H.M.S. SS |
| 14 | 85065 | 4 | #10 Flat Washers SS |
| 16 | 85072 | 2 | #8 Split Lock Washers SS |
| 17 | 85062 | 2 | 8-32 x $^{5}/_{8}$ lg. S.H.M.S. SS |

Pump/Motor Assembly
DWG 86301



## Recommended Spare Parts

**Table 13**

| PART NO. | QTY | DESCRIPTION |
|---|---|---|
| 0004 | | Sealing Bag |
| 70076 | | Magnet |
| 70156 | | Audio Pot |
| 70436 | | Snap, Socket |
| 70437 | | Snap, Stud |
| | | |
| 70438 | | Snap, Button |
| 70582 | | PCB Clip |
| 7447 | | Rubber Feet |
| 86057P | | Power Cord (Grey) |
| 86060G | | Power Cord Strap (Grey) |
| | | |
| 86616 | | Pole Clamp Nut (Rhinestone) |
| 86670 | | Membrane Switch 6000+ Programmable |
| 86671 | | Instruction Label 6000+ Programmable |
| 86672 | | Features Label 6000+ Programmable |
| 86922P | | Pole Clamp Knob (Rhinestone) |
| | | |
| 87035P | | Door Latch w/Magnet (Rhinestone) |
| 87146 | | Speaker |

## Theory of Operation for Upstream Occlusion Sensor (Optional Device)

General:
The Upstream Occlusion Sensor system consists of a transducer, a main Upstream Occlusion PCB and a Temperature Compensation PCB. The Upstream Occlusion Sensor circuit detects the displacement of the outré wall of a tube caused by a drop in internal pressure inside the tube during an occlusion condition. When there is no upstream occlusion, the output of the Upstream Occlusion Sensor circuit provides a pulsed output modulated on a 2400Hz signal. When there is an upstream occlusion, the pulsed output is inhibited, thereby signaling the presence of the upstream occlusion.

Electro-Mechanical:
The displacement of the tube wall is detected by a movable plunger of an inductive position transducer. Inside the transducer plunger is a ferrite core that surrounds a coil winding connected to an oscillator circuit. Changes in the transducer plunger position result in changes in the inductance of the coil. The transducer inductance is part of the tuning circuit of a Colpitts oscillator. Therefore a change in the transducer's plunger position results in a shift in a frequency of the oscillator.

The (+) output of the Colpitts oscillator is converted to a voltage level by a Frequency-to-Voltage Converter (FVC). The FVC converts the variation of frequency into voltage change that corresponds to the displacement of the tube wall. The output of the FVC controls a pulse generation circuit to allow pulses out or inhibit pulses out dependent upon the absence or presence (respectively) of an occlusion upstream of the pump. The pulses are monitored by the microprocessor and the alarm is generated as necessary.

Service:
There are no field serviceable parts in this circuit or sense assembly. All service should be refereed to the factory.

Upstream Occlusion Assembly Dwg. 86878 (Optional device)

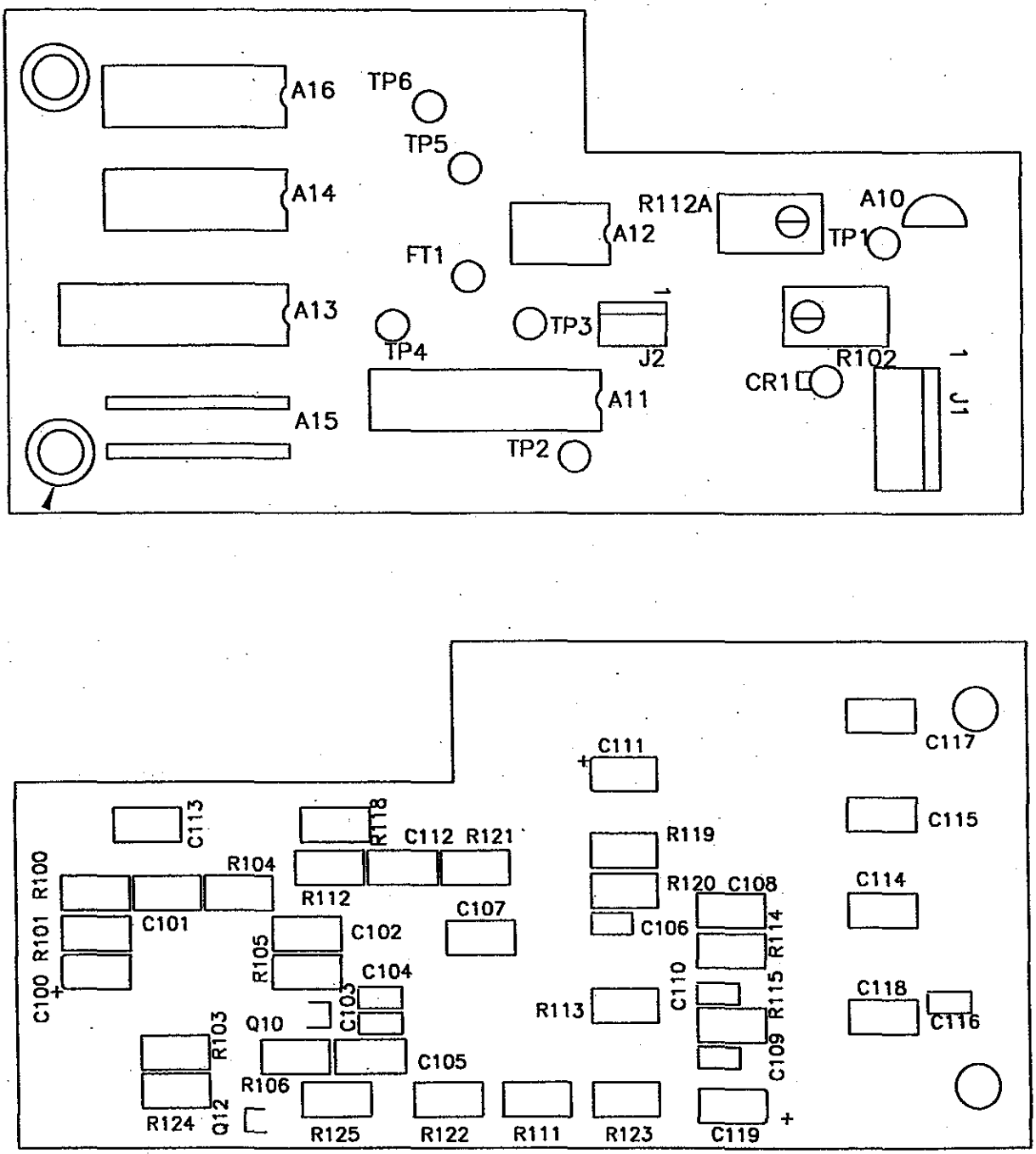



Figure 14